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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,125

04/13/2006

Hyun Soo Roh

PI-128

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23557

7590

03/18/2008

SALIWANCHIK LLOYD & SALIWANCHIK

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EXAMINER

MARCHESEHL MICHAEL A

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

03/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,125

Applicant(s)

ROH ET AL.

Examiner

Michael A. Marcheschi

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 298)
Paper No(s)/Mail Date 12/22/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

In the instant specification and claims, applicant use “~” to define the ranges and the examiner is interpreting this to mean the same thing as “-“ (i.e. the values disclosed for the ranges are the two exact values defined and not approximates).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as obvious over Xu et al. (659) in view of Li (252) and Akahori et al. (206).

Xu et al. teaches in the abstract and sections [0018]-[0032], a polishing composition comprising (1) colloidal silica having a primary particle size of 35 nm and a secondary particle size of 70 nm, (2) ammonia, (3) a cellulose based thickener (MW of 1,000,000), (4) a quaternary ammonium base and (5) water. The amounts of the individual components are defined based on a 20:1 or 40:1 dilution (with water). This reference is silent as to the use of a surfactant.

Li teaches in section [0057] benefits of using surfactants (nonionic) is polishing compositions.

Akahori et al. teaches in sections [0040], [0045] and [0047] that the inclusion of a dispersing agent (nonionic surfactant) in amounts of 0.01-2% are known for the benefit of optimizing the dispersibility of the abrasive particles in polishing compositions. A well known dispersing agent is polyoxyethylenealkyl amine (ether by nature).

The use of a surfactant (in the claimed amount) in the composition according to the primary reference would have been obvious because it is extremely well known to add this component to polishing compositions in order to improve numerous aspects, including (1) to improve the stabilization of the slurry, (2) to improve wafer to wafer and within wafer uniformity, (3) to decrease defects, (4) to enhance post polish cleaning and (5) to improve the dispersibility of the abrasive particles. These benefits are clearly disclosed by Li in section [0057] and Akahori et al. in section [0047]. The benefits for using a surfactant in polishing composition, as defined above, clearly provide the necessary motivation for using this component in the composition according to the primary reference. In addition, the primary reference implies in section [0018] that the slurry is dispersed and one knows that improvements in dispersing of a slurry is accomplished using a dispersant (i.e. surfactant). The skilled artisan would have thus appreciated that any well known surfactant, such as, the one defined by Akahori et al. can be used.

With respect to the individual amounts of (1) colloidal silica, (2) ammonia, (3) cellulose and (4) a quaternary ammonium base, the primary reference defines the amounts based on a 20:1 or 40:1 dilution (with water). A reference can be used for all it teaches, thus the reference can be used for its teaching of a composition comprising the above components prior to dilution (i.e. intermediate composition). With this in mind, when the amounts of components are calculated prior to dilution, the reference teaches amounts for all the components which fall within the claimed values.

With respect to claim 5, since the composition is the same, it is the examiners position that the viscosity value of the composition will also be the same as that claimed absent evidence to the contrary.

With respect to the use of DI water, although not literally defined, the use of this type of water is well within the scope of the skilled artisan in order to minimize or eliminate contamination from the medium.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael A Marcheschi/
Primary Examiner, Art Unit 1793